

ABSTRACT

A method is disclosed for preparing cathodes loaded with manganese oxide that are suitable for use in metal-air cells. The manganese oxide is prepared from the reduction of potassium permanganate by sodium formate at a substantially neutral pH level to produce manganese oxide sols. The sols are then mixed with a carbon slurry to produce a colloidal suspension. The suspension is subsequently waterproofed before being filtered, washed, dried, and rolled to produce the active catalyst layer for the cathode during discharge of the cell. The catalyst layer is then laminated with a current collector and air diffusion layer. A separator is then added to provide a carbon-based air cathode loaded with manganese oxide.

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